



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,092	12/29/2000	Stacy S. Cook	06810-01201	4028

27412 7590 08/25/2005

SIMON, GALASSO & FRANTZ PLC  
P.O. BOX 26503  
AUSTIN, TX 78755-0503

EXAMINER
----------

SAFAIPOUR, HOUSHANG

ART UNIT	PAPER NUMBER
----------	--------------

2622

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/752,092

Applicant(s)

COOK ET AL.

Examiner

Houshang Safaipoor

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This Office Action is in response to applicant's request for reconsideration received on May 5, 2005.

#### ***Response to Arguments***

The following is the response to applicant's arguments.

Applicant argues that he is "unable to find the word shadow anywhere in the Samson-Wai et al. patent". Although the word shadow is not specifically mentioned in the cited reference, Samson-Wai discloses determining presence of background and extraneous information (examiner interprets as "shadow") as an input in determining the edges of the document. The combination of Samson-Wai patent with newly found reference (Feng et al.) discloses differentiation between shadow created by the edge of the document and deviation not associated with the document edge.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 3, 5, 6, 8, 9, 11, 12, 13, 14, 16, 18, 19, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sansom-Wai et al. (U.S. Patent No. 6,310,984) in combination with Feng et al. (U.S. Patent No. 6,046,828).

Regarding claim 1, Sansom-Wai et al. discloses a method for detecting deviations in the surface of a document comprising:

scanning the document to create an image of the document, wherein said scanning is performed in a manner-configured for shadow information corresponding to surface deviations within a scanned area (col. 4, lines 8-44); and

Sansom-Wai does not explicitly disclose identifying at least one edge of the document, wherein said identifying includes differentiating between a shadow resulting from a surface deviation associated with said at least one edge and a shadow corresponding to a surface deviation associated with a scanned non-edge feature by recognize surface deviations in the image. Feng et al. discloses identifying physical edge of a document by determining and calculating first order function (linear) and second order function (nonlinear) variations near edges of the document (col. 3, lines 45-63 - col. 5, line 19 through col. 6, line 45 – col. 10, lines 36-47). Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to combine the two inventions for a more reliable process for detecting the edges not affected by noise or dust and/or dirt.

Regarding claim 2, Sansom-Wai et al. discloses the method of Claim 1 further comprising discarding portions of the image that exist opposite to the identified edge of the document image (col. 8, lines 23-43).

Regarding claim 3, Sansom-Wai et al. discloses the method of Claim 2 further comprising presenting the non-discarded portions of the image (fig. 5 and fig. 6).

Regarding claim 5, Sansom-Wai et al. discloses the method of Claim 1 further comprises isolating the angle of identified edge (col. 8, lines 13-22).

Regarding claim 6 Sansom-Wai et al. discloses, the method of Claim 5 further comprises reducing the angle of the edge by rotating the image (fig. 5 and fig. 6)

Regarding claim 8, although Sansom-Wai et al. does not explicitly disclose inserting the document into a slide adapter prior to scanning, he discloses utilizing many different document carriers (col. 7, lines 40-41).

Regarding claim 9, Sansom-Wai et al. discloses the method of Claim 8, further comprising discarding the portions of the image associated with the image of the document carrier (col. 7, lines 40-67).

Regarding claims 11 and 12 arguments analogous to those presented for claims 1 and 5 are applicable to claims 11 and 12 respectively.

Regarding claim 13, Sansom-Wai et al. discloses the method of Claim 3, further comprising rotating the image to reduce the angle of the edge after isolating the angle of the deviation (fig. 5 and fig. 6).

Regarding claim 14, arguments analogous to those presented for claim 1 are applicable to claim 14.

Regarding claim 16, argument analogous to those presented for claim 8 are applicable to claim 16.

Regarding claim 18, Sansom-Wai et al. discloses the detector of Claim 14 further comprising a processor configured for creating an image of the document dependent upon said information and configured for automatically rotating the image of the document dependent upon

Art Unit: 2622

at least one of said image information and said shadow information (fig. 5 and fig. 6).

Regarding claim 19, Sansom-Wai et al. discloses the detector of Claim 14 further comprising a processor for creating an image of the document capable of eliminating image not associated with the image (col. 7, lines 9-67).

Regarding claim 20, Sansom-Wai et al. discloses the detector of Claim 14 further comprising a processor for creating an image of the document capable of truncating information not associated with the document image (col. 7, lines 9-67).

Regarding claim 24, arguments analogous to those presented for claim 1 are applicable to claim 24.

Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sansom-Wai et al. (U.S. Patent No. 6,310,984) and Feng et al. (U.S. Patent No. 6,046,828) and further in view of the known prior art.

Regarding claim 4, scanning of a document by infrared light is well known and routinely implemented in the art. Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to use infrared light for illuminating the document to detect defects.

Regarding claim 15, argument analogous to those presented for claim 4 are applicable to claim 15.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sansom-Wai et al. (U.S. Patent No. 6,310,984) and Feng et al. (U.S. Patent No. 6,046,828) and further in view of Liao (U.S. Patent No. 5,467,172).

Art Unit: 2622

Regarding claim 7, although Sansom-Wai et al. discloses a flat bed scanner (col. 5, lines 60-65), he does not explicitly disclose the method of Claim 1 further comprising illuminating the document with a transparency adapter. Liao discloses image scanner transparency adaptor suitable for use with flat bed scanners. Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to use Liao's transparency adaptor with Sansom-Wai's scanner to illuminate the transparent document.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sansom-Wai et al. (U.S. Patent No. 6,310,984) and Feng et al. (U.S. Patent No. 6,046,828) and further in view of Arita et al. (U.S. Patent No. 6,493,061).

Regarding claim 10, Sansom-Wai et al. does not explicitly disclose the method of Claim 1, wherein said scanning includes scanning the document with a plurality of light sources;

Arita et al. discloses two illumination sources for identifying the defects (Abstract). Combination of these two references would identify and analyze the shadows created. Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to combine Feng and Sansom-Wai's scanner with that of Arita to illuminate and analyze the transparent document.

Regarding claim 21, arguments analogous to those presented for claim 10 are applicable to claim 21.

Claims 17, 22, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Sansom-Wai et al. (U.S. Patent No. 6,310,984) and Feng et al. (U.S. Patent No. 6,046,828) and further in view of Hulan et al. (U.S. Patent No. 5,987,270).

Regarding claim 17, the combination does not explicitly disclose a light source

Art Unit: 2622

positioned to create shadows that are detected by the sensor. Hulan et al. discloses such an apparatus (col. 10, lines 14-23). Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to include Hulan's design in Sansom-Wai's apparatus to detect and remove the shadow created by the illumination source.

Regarding claim 22, Sansom-Wai does not explicitly disclose the detector of Claim 14 wherein the scanner automatically initiates a high resolution scan. Hulan et al. discloses such an apparatus that performs pre scan and full scan of the document (col. 10, lines 23-28).

Regarding claim 23, manual overriding scanning operation is well known and routinely implemented in the art. Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to include this feature in Sansom-Wai's device.

Regarding claim 25, Sansom-Wai does not explicitly disclose a high and a low resolution scan system. Hulan et al. discloses such a scanner system (col. 9, line 39 through col. 10, line 28). Therefore it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to combine Sansom-Wai's device with that of Hulan to generate shadow information within the scanned area (please refer to the arguments under claim 1).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Houshang Safaipoor whose telephone number is (571)272-7412. The examiner can normally be reached on Mon.-Thurs. from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles, Sr. can be reached on (571)272-7402. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.



Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Houshang Safaipoor  
August 20, 2005

JOSEPH R. POKRZYWA  
PRIMARY EXAMINER  
ART UNIT 2622

*Joseph R. Pokrzywa*